In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (cancelled).

2. (original): A method of estimating the link quality of a channel composed of subcarriers over which OFDM packets are transmitted, the method comprising the steps of:

estimating a noise quantity (B) of said channel based on two long training symbols contained in a received OFDM packet transmitted over said channel;

summing the absolute values of estimated subcarrier gain values (H_k) of said subcarriers thereby obtaining an estimated channel gain value (A) of said channel;

estimating a fading value (F) of said channel based on said estimated subcarrier gain values; and

subtracting said fading value (F) from said estimated channel gain value to derive a channel gain measure (A-F), whereby the link quality of said channel is defined as a ratio of the channel gain measure (A-F) to the noise quantity (B).

3. (currently amended): The method as claimed in claim 2, the noise quantity estimating step further comprising:

receiving the first of said two long training symbols from said channel to obtain a first subcarrier gain value $H_{k,1}$ for each of said sub-carriers, where k denotes the sub-carrier index;

receiving the second of said two long training symbols from said channel to obtain a second subcarrier gain value $H_{k,2}$ for each of said subcarriers; and

estimating the noise quantity according to the relationship

$B = \sum_{k=1}^{N} \left| H_{k,1} - H_{k,2} \right|$, where N is the quantity of said subcarriers.

4. (original): The method as claimed in claim 3, wherein said estimated subcarrier gain value (H_k) of each subcarrier is calculated based on said first and second subcarrier gain values.

5. (original): The method as claimed in claim 4, wherein said estimated subcarrier gain value (H_k) of each subcarrier is an average value of said first and second subcarrier gain values.

6. (original): The method as claimed in claim 3, wherein said fading value (F) is calculated according to the relationship $F = \sum_{k=1}^{N} | \, | H_k | - \frac{A}{N} \, |$.

7. (original): The method as claimed in claim 4, wherein said fading value (F) is calculated according to the relationship $F = \sum_{k=1}^{N} | \, | H_k | - \frac{A}{N} \, |$.

8. (original): The method as claimed in claim 5, wherein said fading value (F) is calculated according to the relationship $F = \sum_{k=1}^{N} | |H_k| - \frac{A}{N} |$.

9. (original): An apparatus for estimating the link quality of a channel composed of subcarriers, said apparatus comprising:

channel gain estimating means for estimating a first and a second subcarrier gain values (H_{k-1} H_{k-2}) for each subcarrier based on two sequentially received long training symbols of a received OFDM packet;

calculating means for calculating a noise quantity (B), a fading value (F) and an estimated channel gain value (A) based on said first and second subcarrier gain values; and

link quality calculating means for calculating the quality of said channel, wherein said link quality calculating means performs a subtraction of said fading value from said estimated channel gain value (A-F) to derive a modified channel gain value, whereby the quality of said channel is defined as a ratio of the modified channel gain value (A-F) to the noise quantity (B).

10. (original): The apparatus as claimed in claim 9, wherein said calculating means calculates the noise quantity (B) based on relationship $B = \sum_{k=1}^{N} \left| H_{k,1} - H_{k,2} \right|$,where N is the quantity of said sub-carriers.

11. (original): The apparatus as claimed in claim 9, wherein said calculating means further calculates an average value of said first and second subcarrier gain values ($H_{k,1}$ $H_{k,2}$) as an estimated subcarrier gain value (H_K) for each subcarrier.

12. (original): The apparatus as claimed in claim 11, wherein said estimated channel gain value (A) is derived by summing the absolute values of said estimated subcarrier gain values (H_k).

13. (original): The apparatus as claimed in claim 11, wherein said fading value (F) is calculated according to the relationship $F = \sum_{k=1}^{N} || H_k | - \frac{A}{N} |$, where N is the quantity of subcarriers.

14. (original): The apparatus as claimed in claim 12, wherein said fading value (F) is calculated according to the relationship $F = \sum_{k=1}^{N} || H_k | - \frac{A}{N} |$, where N is the quantity of subcarriers.